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April 12, 2006

Date

Robert J. Outland

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Michael G. Reynolds et al.

Group Art Unit 2832

MAGNETIC INERTIAL FORCE GENERATOR

Examiner: B. Rojas

Application No. 10/786,842

Filed: 02/25/2004

Attorney Docket: GP-303485

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REQUEST FOR RECONSIDERATION

Sir:

Claims 1-15 and 17-20 remain in the application. Claims 4, 7, 11, 14, 17 and 19 have been indicated as having allowable subject matter, but are objected to for dependency from a rejected claim. The remaining claims are all rejected as anticipated by or unpatentable over US 5,434,549 Hirabayashi et al.

In response, Applicant respectfully requests reconsideration and allowance of all claims for the following reasons.

In the Summary of the Invention, paragraph 7, the present application states "The force generator is improved by substituting first and second radially

magnetized permanent magnets in place of the axially magnetized permanent magnets of the prior art design." The prior art reference is to the embodiment shown in Fig. 1 of the drawings. Claim 1 of the application calls for "the magnets having radially extending flux lines passing through the coils." This condition is illustrated in Fig. 3 wherein the radially extending flux lines are shown by dashed lines extending radially through the magnets 30, 32 and coils 22, 24.

As the figure indicates, magnet 30 is magnetized so that the inner surface of the magnet acts as a North Pole and the exterior or outer surface of the magnet acts as a South Pole. Magnet 32 is the opposite in that the inner surface of the magnet acts as a South Pole and the outer surface acts as a North Pole. Thus, in each of the magnets the lines of flux extend radially through the magnets between the North and South poles thereof. This differs from the prior art conventional approach shown in Applicant's Fig. 1, wherein the ring magnet 76 is magnetized in a conventional manner with the North Pole at the upper end and the South Pole at the lower end as shown in the figure. Thus, this prior art magnet is axially magnetized and the lines of flux through the magnet inherently extend vertically, generally parallel to the axis 68.


The Hirabayashi et al. reference relied upon by the Examiner is clearly similar to the prior art arrangement of Applicant's Fig. 1, as opposed to the embodiment of the present invention shown in Figs. 2 and 3. Note that in every figure of Hirabayashi et al., the permanent magnets are longitudinally, or axially, magnetized, each having a North Pole at one end and a South Pole at the other. The poles are oppositely located longitudinally or axially of the actuator embodiments disclosed. Thus, the reference does not embody the feature of Applicant's claim 1, calling for magnets having radially extending flux lines passing through the coils.

Claims 2-12, being dependent on claim 1, all include the specific requirement of magnets having radially extending flux lines and thus distinguish from the Hirabayashi et al. reference. Similarly, independent claim 13 specifically recites "the magnets being radially magnetized and generating radially extending flux lines passing

through the coils". Claims 14, 15 and 17-20 depend from claim 13 and thus include the same subject matter. Again, this specifically differs from the axially magnetized magnets 5a, 5b of the Hirabayashi et al. embodiments and, in particular, those shown in Figs. 26-28 of Hirabayashi et al.

As a result, the Hirabayashi et al. reference relied upon by the Examiner does not disclose the radially magnetized permanent magnets with their radial flux lines extending radially through the associated coils as shown in Fig. 3 of Applicant's drawings and thus fails to either anticipate or make obvious any of the current claims of the application or to disclose the novel inventive feature of the present invention. Accordingly, withdrawal of all rejections and allowance of all claims in the application is respectfully requested.

Respectfully submitted,



By

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